

Spatial Data Transfer Standard (SDTS)

Background

The Federal Geographic Data Committee's (FGDC) Spatial Data Transfer Standard (SDTS) is a mechanism for transferring and archiving spatial data (including metadata) between dissimilar computer systems. The SDTS specifies exchange constructs, including formats, structure, and content, for spatially referenced vector and raster (including gridded) data.

SDTS components are a conceptual model, specifications for a quality report, transfer module specifications, data dictionary specifications, and definitions of spatial features and attributes.

Advantages

Advantages of the SDTS include data and cost sharing, flexibility, and improved quality information and metadata, all with the potential for no loss of information during transfer.

Status

The SDTS was approved as Federal Information Processing Standard (FIPS) 173 in July 1992. Implementation was effective in February 1993. Use of the SDTS became mandatory for Federal agencies in June 1994. Also in June 1994, FIPS 173 was amended as FIPS 173-1, when Part 4 of the SDTS standard, Topological Vector Profile (TVP), was added. The SDTS serves as the spatial data transfer mechanism for all Federal agencies and is available for use by all State and local governments, the private sector, and research and academic organizations. Parts 1 through 4 of the SDTS have been submitted to

the American National Standards Institute (ANSI) for approval. Part 6 has received FGDC approval, and Part 5 is currently in the FGDC approval process.

Implementation Support

The U.S. Geological Survey's (USGS) commitment, as the designated maintenance authority, is to increase use of the SDTS. This commitment includes the following activities:

- **Profile Development**—A profile is a clearly defined and limited subset of the SDTS, designed for use with a specific type of data. The most effective way to use the SDTS is to define a profile first; then design encoding and decoding software to handle only the options in the profile. Part 5, Raster Profile includes a Basic Image Interchange Format (BIIF) extension; approval for Part 5 is expected in early 1998.
- **Software Development**—The USGS is coordinating the development of public-domain software tools. One tool available now is a software function library designed to support SDTS application development. Translators and viewers specific to USGS data structures are also being developed and will be available in early 1998.
- **User Guides**—Because of the complexity of the SDTS, and to promote education, the USGS distributes articles, user guides, and training material over the Internet.
- **Spatial Feature Register**—Part 2 of the SDTS contains a preliminary list of standard hydrographic and topographic features. The FGDC is accepting

submissions from their thematic working groups for the spatial features register, which will serve to supplement the features and attributes currently in Part 2.

- **Conformance Testing**—The USGS has developed a conformance test suite that will validate commercial implementations of SDTS translators. The suite tests data sets, encoders, and decoders. For more information about the conformance testing process, visit the SDTS Web page or contact Bryon Ellingson at bellingson@usgs.gov.

- **Data Availability**—The SDTS ftp site contains much free, downloadable information, sample data, and software. Available data include raster (DEM, ERDAS) and TVP transfers (DLG's in 1:24,000, 1:100,000, and 1:2,000,000 scales). Software available includes DLG-3, FIPS 123, Master Data Dictionary, and tools. The site also contains a list of Frequently Asked Questions (FAQ) and an OOREADME file that lists all software, standards, and data sets available. To access this site, go to <ftp://sdts.er.usgs.gov/pub/sdts>.

Online Information

The SDTS (FIPS 173-1, all parts) and related documentation are available in the electronic form through anonymous FTP on the Internet at the following address:

[ftp sdts.er.usgs.gov](ftp://sdts.er.usgs.gov) (144.47.162.236)
User: anonymous
After connecting: `cd pub/sdts`

The OOREADME file contains information on the contents of each subdirectory.

The SDTS Web page contains a wealth of information with links to even more. The address for the SDTS home page is <URL: <http://mcmcweb.er.usgs.gov/sdts>>.

For More Information

For additional information about the SDTS or how to participate in related development activities, contact:

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For information on other USGS products and services, call 1-800-USA-MAPS, or use the EARTHFAX fax-on-demand system, which is available 24 hours a day at 703-648-4888.

Please visit the USGS home page at <URL: <http://www.usgs.gov/>>.